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3/3,AB/3 (Item 3 from file: 5)

02710793 Biosis No.: 000068021382

**DEVELOPMENT OF A GONADOLIBERIN RADIO IMMUNOASSAY UTILIZING A  
SUPERACTIVE SYNTHETIC GONADOLIBERIN ANALOG PEPTIDE POSITION 6  
LYSINE GONADOLIBERIN**

**Author:** HEBER D; ODELL W D

**Author Address:** DEP. MED., UNIV. CALIF. LOS ANGELES SCH. MED., TORRANCE,  
CALIF. 90509, USA.

**Journal:** PROC SOC EXP BIOL MED 158 (4). 1978. 643-646. 1978

**Full Journal Name:** Proceedings of the Society for Experimental Biology and  
Medicine

**CODEN:** PSEBA

**R cord Type:** Abstract

**Language:** ENGLISH

**Abstract:** Specific, high titer anti-GnRH [gonadoliberin] antisera were obtained following immunization of rabbits with a conjugate of thyroglobulin and D-[Lys6]-GnRH. D-[Lys6]-GnRH was chosen to take advantage of an .epsilon.-amino group in the center of the peptide chain and 3 carbons away from the chain as a unique point of conjugation. The RIA [radioimmunoassay] developed with this antisera was validated for the measurement of GnRH in [rat, rabbit, human, dog] plasma and hypothalamic supernatants. Studies of GnRH metabolic clearance indicated that multicompartmental clearance by different organs was a probable explanation for the rapid disappearance of GnRH from the peripheral circulation.

1978

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3/3,AB/5 (Item 1 from file: 28)

93-11630

**Immunization of rainbow trout (*Oncorhynchus mykiss*) against gonadotropin-releasing hormone (GnRH): A potential anti-maturation vaccine ?**

Riley, E.M.; Secombes, C.J.

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AQUACULTURE VOL. 112, NO. 2-3, pp. 271-283, 1993

SUMMARY LANGUAGE - ENGLISH

Rainbow trout were injected with conjugates of gonadotropin-releasing hormone (GnRH) coupled to various protein carriers in an attempt to elicit an antibody response to GnRH. Glutaraldehydeformed conjugates of GnRH injected in Freund's complete adjuvant (FCA) promoted some anti-GnRH antibody formation in trout but relied upon multiple boosting injections. Immunization of rainbow trout with an extended form of the releasing hormone (GnRH-Gly-Cys), coupled to the carrier proteins via a cysteine extension of the peptide, greatly enhanced antibody formation to GnRH. The purified protein derivative (PPD) of tuberculin was considered to be the most effective carrier tested for GnRH in rainbow trout, with just a single injection of GnRH-PPD conjugate eliciting good antibody production (log sub(2) serum titre=15). Such anti-GnRH antibody formation may be of value in salmonid culture to prevent fish maturation by neutralization of endogenous GnRH.

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3/3,AB/42 (Item 1 from file: 348)

00451036

**Fusion proteins comprising TraTp and at least one LHRH analogue**

**Title in German:** Fusionsproteine bestehend aus TraTp und mindestens einem LHRH-Analog

**Title in French:** Proteines de fusion comprenant TraTp et au moins un analogue de LHRH

**Patent Assignee:** BIOTECHNOLOGY AUSTRALIA PTY. LTD., (374171), 28 Barcoo Street, Roseville, NSW 2069, (AU), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;IT;LI;LU;NL;SE)

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**Legal Representative:** Bannerman, David Gardner et al (28001), Withers & Rogers 4  
Dyer's Buildings Holborn, London, EC1N 2JT, (GB)

	Patent Number	Kind	Date
<b>Patent</b>	EP 446313	A1	910918 (Basic)
	EP 446313	A1	920819
	EP 446313	B1	960731
	WO 9102799		910307
<b>Application</b>	EP 90912564		900824
	WO 90AU373		900824
<b>Priority</b>	AU 895979		890825

**Designated States:** AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE

**International Patent Class:** C12N-015/62; C12N-015/70; C12P-021/02; C07K-007/23;  
A61K-039/385; A61K-038/24;

**Note:**

No A-document published by EPO

**Language (Publication, Procedural, Application):** English; English; English

**FULLTEXT AVAILABILITY:**

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB96	765
CLAIMS B	(German)	EPAB96	675
CLAIMS B	(French)	EPAB96	778
SPEC B	(English)	EPAB96	9185

Total word count	Document A	0
Total word count	Document B	11403
Total word count	Document A + B	11403

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3/3,AB/43 (Item 1 from file: 349)

00374582

**PSEUDOMONAS EXOTOXIN AS IMMUNOGENIC CARRIER IN SYNTHETIC  
CONJUGATE VACCINES**

**L'EXOTOXINE DE PSEUDOMONAS: UN VECTEUR IMMUNOGENE POUR  
VACCINS DE SYNTHESE CONJUGUES**

**Patent Applicant/Assignee:**

MERCK & CO INC,  
HICKEY Gerard J,  
MOHN Kenneth L,

**Inventor(s):**

HICKEY Gerard J,  
MOHN Kenneth L,

**Patent and Priority Information (Country, Number, Date):**

**Patent:** WO 9715325 A1 19970501

**Application:** WO 96US17008 19961023 (PCT/ WO US9617008 )

**Priority Application:** US 958018 19951027; GB 962878 19960213

**D signated States:** AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GE HU IL IS  
JP KG KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK TJ TM  
TR TT UA US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE  
CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML  
MR NE SN TD TG

**Publication Language:** English

**Fulltext Word Count:** 17071

**English Abstract**

Pseudomonas exotoxin and variants thereof are potent immunogenic carrier proteins for GnRH. Vaccines containing a GnRH associated with Pseudomonas exotoxin are capable of eliciting high titres of anti-GnRH antibodies in animals, and are therefore useful for controlling fertility, reducing undesirable reproductive hormone driven

behaviors, and treating sex steroid responsive tumors.

### French Abstract

L'exotoxine de Pseudomonas et certaines de ses variantes sont des proteines vecteurs immunogenes puissantes de la GnRH. Les vaccins contenant une GnRH en association avec l'exotoxine de Pseudomonas permettent d'obtenir chez des animaux des titres eleves d'anticorps anti-GnRH. Il en resulte que de tels vaccins conviennent particulierement au controle de la fertilit , a l'attenuation des comportements indesirables dependants des hormones de reproduction, et au traitement des tumeurs reagissant aux steroïdes sexuels.

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3/3,AB/44 (Item 2 from file: 349)

00374574

**GnRH/REDUCED PSEUDOMONAS EXOTOXIN CONJUGATES**  
**CONJUGUES GnRH/EXOTOXINE DE PSEUDOMONAS REDUITE**

### Patent Applicant/Assignee:

MERCK & CO INC,  
TOLMAN Richard L,  
LOMBARDO Victoria K ,

### Inventor(s):

TOLMAN Richard L,  
LOMBARDO Victoria K,

### Patent and Priority Information (Country, Number, Date):

**Patent:** WO 9715317 A1 19970501

**Application:** WO 96US17041 19961023 (PCT/ WO US9617041 )

**Priority Application:** US 955899 19951027

**Designated States:** AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GE HU IL IS  
JP KG KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK TJ TM  
TR TT UA US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE  
CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML  
MR NE SN TD TG

**Publication Language:** English

**Fulltext Word Count:** 10169

### English Abstract

Conjugates of GnRH are constructed from GnRH or an analog thereof, a reduced

Pseudomonas exotoxin, or a variant thereof, and a unique linking group. The conjugates are administered to male and female animals to sterilize said animals or to reduce tumors that require sex steroids for growth. The instant conjugates are therefore useful as sterilizing agents and anticancer agents.

### French Abstract

Des conjugues de GnRH (hormones liberant l'hormone luteinisante) sont construits a partir de GnRH ou d'un analogue de celle-ci, a partir d'une exotoxine de Pseudomonas reduite ou d'un variant de celle-ci, et a partir d'un groupe de liaison unique. Ces conjugues sont administres a des animaux males et femelles pour les steriliser ou pour reduire les tumeurs qui ont besoin de steroides sexuels pour croitre. Ces conjugues sont par consequent utiles comme agents sterilisants et comme agents anticancereux.

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3/3,AB/45 (Item 3 from file: 349)

00374573

### CONJUGATES OF GONADOTROPIN RELEASING HORMONE CONJUGUES DE GONADOLIBERINE

#### Patent Applicant/Assignee:

MERCK & CO INC,  
LOMBARDO Victoria K,  
MARBURG Stephen,  
TOLMAN Richard L,

#### Inventor(s):

LOMBARDO Victoria K,  
MARBURG Stephen,  
TOLMAN Richard L,

#### Patent and Priority Information (Country, Number, Date):

Patent: WO 9715316 A1 19970501

Application: WO 96US16950 19961023 (PCT/ WO US9616950 )

Priority Application: US 955905 19951027; GB 962951 19960213

Designated States: AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GE HU IL IS  
JP KG KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK TJ TM  
TR TT UA US UZ VN KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE  
CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML  
MR NE SN TD TG

**Publication Language:** English

**Full Text Word Count:** 19323

### **English Abstract**

The present invention provides conjugates of GnRH and an immunogenic carrier protein wherein said GnRH is first coupled to a lysine-containing hydrophilic linear oligopeptide scaffold. The conjugates of the invention are capable of eliciting strong immune response against GnRH, and therefore are useful as immunosterilants for animals, or for therapy in animals and human for steroid hormone dependent tumors, and other conditions such as endometriosis and precocious puberty.

### **French Abstract**

L'invention concerne des conjugues de gonadoliberine (GnRH) avec un vecteur proteique immunogene. La GnRH est d'abord couplee a un oligopeptide hydrophile lineaire contenant de lysine et servant de "charpente". Les conjugues de l'invention sont capables de faire apparaitre une forte reponse immune contre la GnRH. Ces conjugues sont utiles comme immuno-sterilisants chez les animaux. Ils peuvent egalement servir chez l'homme et chez les animaux a combattre les tumeurs provoques par les hormones steroidiennes, ainsi que d'autres troubles tels que l'endometriose et la puberte precoce.

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3/3,AB/46 (Item 4 from file: 349)

00185457

**FUSION PROTEINS**

**PROTEINES DE FUSION**

### **Patent Applicant/Assignee:**

BIOTECHNOLOGY AUSTRALIA PTY LTD,

RUSSELL-JONES Gregory John,

STEWART Andrew George,

TSONIS Con George,

### **Inventor(s):**

RUSSELL-JONES Gregory John,

STEWART Andrew George,

TSONIS Con George,

### **Patent and Priority Information (Country, Number, Date):**

**Patent:** WO 9102799 A1 19910307

**Application:** WO 90AU373 19900824 (PCT/ WO AU9000373 )

**Priority Application:** AU 895979 19890825

**D signat d Stat s:** AT AU BE CA CH DE DK ES FR GB IT JP LU NL SE US

**Publication Language :** English

**Fulltext Word Count:** 10098

### **English Abstract**

This invention relates to the preparation of novel fusion proteins which comprise an analogue of LHRH and TraTp or an analogue of TraTp. The fusion proteins of the invention are useful as components of vaccines for the inhibition or control of reproductive functions in vertebrate hosts. The invention also relates to polynucleotide molecules encoding the fusion proteins, to transformant hosts expressing the fusion proteins and to methods of inhibiting or controlling reproductive function in vertebrate hosts using the fusion proteins or vaccines of the invention.

### **French Abstract**

L'invention concerne la preparation de nouvelles proteines de fusion comprenant un analogue de LHRH et de TraTp ou un analogue de TraTp. Les proteines de fusion de l'invention sont utiles en tant que composants de vaccins permettant l'inhibition ou la regulation des fonctions de reproduction chez des hotes vertebres. L'invention concerne egalement des molecules de polynucleotides codant les proteines de fusion, des hotes transformants exprimant les proteines de fusion, ainsi que des procedes d'inhibition ou de regulation de la fonction de reproduction chez des hotes vertebres a l'aide des proteines de fusion ou de vaccins de l'invention.

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3/3,AB/47 (Item 1 from file: 357)

0202035 DBA Accession No.: 96-12806 PATENT

**Gonadotropin-releasing hormone multimer fusion proteins**

**- Leukotoxic activity-lacking leukotoxin and gonadoliberin multimer chimeric fusion protein construction; DNA cassette expression in Escherichia coli for contraceptive fertility vaccine generation**

**Author:** Potter A A; Manns J G

**Corporate Source:** Saskatoon, Saskatchewan, Canada.

**Patent Assignee:** Univ.Saskatchewan 1996

**Patent Number:** WO 9624675 **Patent Date:** 960815 **WPI Accession No.:** 96-384447 ( 9638 )

**Priority Application Number:** US 387156 **Application Date:** 950210

**National Application Number:** WO 96CA49 **Application Date:** 960124

**Language:** English

**Abstract:** Chimeric proteins (977 and 544 amino acids) containing a leukotoxic activity-lacking leukotoxin protein (LKT 352 or LKT 111) fused to a gonadoliberin (GnRH) multimer (GnRH-X-GnRH where X is a peptide linkage, an amino acid spacer group, a leukotoxin protein or (GnRH)<sub>n</sub>) are new. Also claimed are: a DNA construct encoding the chimeric protein; an expression DNA cassette containing the DNA construct and control sequences that direct construct transcription; and a host cell (Escherichia coli) transformed with the DNA cassette. The chimeric proteins have greater immunogenicity than the GnRH multimer alone and may be used to generate vaccines for fertility control (especially immunological animal sterilization). In an example, a synthetic oligonucleotide encoding (GnRH)<sub>4</sub> was ligated into BamHI-digested plasmid pAA352 (ATCC 68283) containing a Pasteurella hemolytica LKT 352 gene. The product was used to transform E. coli MH3000 and plasmid DNA from the transformants was used to transform E. coli JM105. A recombinant plasmid expressing the 977 amino acid sequence was designated plasmid pCB113 (ATCC 69749). (87pp)

Derwent Biotech Res. (Dialog® File 357): (c) 2002 Thomson Derwent & ISI. All rights reserved.

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## 3/3,AB/49 (Item 2 from file: 654)

3597016

Derwent Accession: 1991-087282

Utility

C/ LHRH-TraTp fusion proteins; VACCINES OF TRAT  
PROTEIN COMPLEXES; ANTIFERTILITY AGENTS; CONTRACEPTIVES; VETERINARY  
MEDICINE; SIDE EFFECT REDUCTION; GENETIC ENGINEERING

Inventor: Russell-Jones, Gregory J., Middle Cove, AU

Stewart, Andrew G., Pymble, AU

Tsonis, Con G., Denistone, AU

Assignee: Biotechnology Australia Ptl Ltd. (03), Roseville, AU

Biotechnology Australia Pty Ltd AU (Code: 20758)

Examiner: Draper, Garnette D. (Art Unit: 182)

Assistant Examiner: Spector, L.

Law Firm: Foley &amp; Lardner

	Publication Number	Kind	Date	Application Number	Filing Date
Main Patent	US 5403586	A	19950404	US 91690983	1991062.
PCT	WO 9102799		19910307	WO 90AU373	1990082.
			371:19910625		
			102e:19910625		
Priority				AU 895979	1989082.

Abstract:

This invention relates to the preparation of novel fusion proteins which comprise an analogue of LHRH and TraTp or an analogue of Tra fusion proteins of the invention are useful as components of vaccines for the inhibition or control of reproductive functions in vertebrates. The invention also relates to polynucleotide molecules encoding the fusion proteins, to transformant hosts expressing the fusion proteins, to methods of inhibiting or controlling reproductive function in vertebrate hosts using the fusion proteins or vaccines of the invention.

Document type: C

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